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# Livermore BSL-3 Lab Project Profile Sheet

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## FACILITIES PROJECT PROFILE DATA

**Profile Information Provided By:** Bruce McDowell    **Title:** BSL-3 Facility Program Manager

**Laboratory Owner:** U.S. National Nuclear Security Administration

**Building location:** Lawrence Livermore National Laboratory

**Principal building function:** Biosafety Level III Laboratory Space

**Project type:** Design/Build

**Architect:** Britz-Heidbrink (Techspace)

**Builder:** Britz-Heidbrink (Techspace)

**Construction method:** Prefabricated Modular

**Project start date:** August 2003

**Completion date:** August 2006

**Total design time:** 7 Months

**Total construction time:** 18 Months

**Total GSF:** 1590

**Space allocation:**

<b>laboratories:</b>	<b>NSF</b> 622 ( 44 %)
<b>offices:</b>	<b>NSF</b> ( 0 %)
<b>pilot plant:</b>	<b>NSF</b> ( 0 %)
<b>lab support:</b>	<b>NSF</b> 579 ( 41 %)
<b>Other:</b>	<b>NSF</b> 210 ( 15 %)

**TOTAL NSF:** **NSF** 1411 ( 100 %)

**Overall HVAC requirement:** 2.15 CFM/NSF

**FACILITIES PROJECT PROFILE DATA**

**Laboratory fumehoods (vendors):** None

**Biological safety cabinets (vendors):** NUAIR Class II Type A-2 (thimble connection)

**Other equipment/furniture of interest (vendors):**

- Animal tissue digester (WR2)
- VHP Decontamination System (Steris)
- Autoclave (Steris)
- Animal Cage Rack (Lab Products)

**Construction cost:** \$2,032,000

**Construction cost/GSF:** \$1,278/GSF

**Total project cost:** \$2,450,000

**People occupancy cost:**

**Square footage occupancy cost:** \$1,541/GSF

## **FACILITIES PROJECT PROFILE DATA**

### **Unique Design Objectives:**

1. STD-1020-2002 PC-2 seismic requirements
2. LLNL Security Plan / UC Select Agent Human Reliability Plan

### **Unique Design Solutions:**

1. Foundation anchors and seismic strapping
2. Monitored building and laboratory personal identification systems

## **BSL-3 Facility at Lawrence Livermore National Laboratory**



### **Building Safety Systems**

- Meets DOE STD-1020-2002 PC-2 seismic requirements
- HEPA-filtered biosafety cabinets in each laboratory
- HEPA-filtered animal cage rack
- Double HEPA-filtered building exhaust
- Vaporous hydrogen peroxide room decontamination system
- Negative air-pressure in laboratory space
- Sealed laboratory surfaces
- Retention tank for liquid wastes
- Autoclave for waste treatment
- Tissue digester for waste treatment

## About the Presenter

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**BRUCE MCDOWELL** is the BSL-3 Facility Program Manager at the Lawrence Livermore National Laboratory. His management responsibilities are focused on completion of construction and ensuring that key regulatory and programmatic requirements have been fully integrated into facility plans, procedures and staff training.



Since joining the University of California in 1991, Mr. McDowell has played a key role in the management teams responsible for construction and startup of significant new facilities at LLNL. These include the new \$80 million Decontamination and Waste Treatment Facility, one of the first DOE facilities to receive a RCRA hazardous waste treatment, storage, and disposal permit, and the Terascale Simulation Facility, which houses BlueGene/L, currently ranked by *TOP500 Computer Sites* as the fastest computer in the world.

Mr. McDowell also manages multi-laboratory technical teams in support of Nuclear Regulatory Commission decisions regarding relicensing commercial nuclear power plants. Prior to government service, Mr. McDowell was responsible for licensing and constructing small-scale private hydroelectric projects in Northern California.

Mr. McDowell received a Masters of Science in Resource Economics from the University of California at Davis and an MBA from the University of San Francisco. He is currently pursuing a graduate degree in Atmospheric Science at UC Davis.

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